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IS 13413-1 (1992): Designation for cores and assemblies for transformers and inductors for used in telecommunication and electronic equipment, Part 1: Laminated cores [LITD 5: Semiconductor and Other Electronic Components and Devices]

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भाग 1 परतदार क्रोड

Indian Standard

DESIGNATION FOR CORES AND ASSEMBLIES FOR TRANSFORMERS AND INDUCTORS FOR USE IN TELECOMMUNICATION AND ELECTRONIC EQUIPMENT

PART 1 LAMINATED CORES

UDC 621·314·235·042·1 : 003·62

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BUREAU OF INDIAN STANDARDS
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG
NEW DELHI 110002

June 1992 Price Group 2

Magnetic Components and Ferrite Materials Sectional Committee, LTD 13

FOREWORD

This Indian Standard (Part 1) was adopted by the Bureau of Indian Standards, after the draft finalized by the Magnetic Components and Ferrite Meterials Sectional Committee had been approved by the Electronics and Telecommunication Division Council.

The code given in this standard has the flexibility to cover different shapes and ranges of laminations and may be used to identify laminated cores and laminated packages as well as assemblies for transformers and inductors.

The core designation consists of the lamination designation according to IS 1179 (Part 1) : 1986 and IS 11974 (Part 2/Sec 1 to 7) : 1986 together with three additional letters to describe the core.

Assemblies for transformers and inductors are given the designation corresponding to the core used in their formation plus the additional letters to denote the mounting style and whether or not the assembly is intended for printed wiring board (pwb) mounting.

The designations specified are not sufficient for ordering purposes and require supplementing with additional information such as, for example, material composition and lamination thickness.

This standard (Part 1) is based, without any technical change, on IEC document 51 (CO) 271 'Designation for cores and assemblies for transformers and inductors for use in telecommunication and electronic equipment — Part 1 : Laminated cores', circulated by International Electrotechnical Commission.

For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS 2 : 1960 'Rules for rounding off numerical values (*revised*)'. The number of significant places retained in the rounded oft value should be the same as that of the specified value in this standard.

AMENDMENT NO. 1 APRIL 1999
TO
IS 13413 (PART 1) : 1992 DESIGNATION FOR CORES AND ASSEMBLIES FOR TRANSFORMERS AND INDUCTORS FOR USE IN TELECOMMUNICATION AND ELECTRONIC EQUIPMENT

PART 1 LAMINATED CORES

(*Foreword, sixth para*) — Substitute the following for the existing para:

'This Standard (Part 1) is based, without any technical change, on IEC 1186-1(1992) 'Transformers and inductors for use in telecommunication and electronic equipment — Designations for cores and assemblies—Part 1 : Laminated cores', issued by International Electrotechnical Commission (IEC).''

(LTD 13)

Reprography Unit, BIS, New Delhi, India

Indian Standard

DESIGNATION FOR CORES AND ASSEMBLIES FOR TRANSFORMERS AND INDUCTORS FOR USE IN TELECOMMUNICATION AND ELECTRONIC EQUIPMENT

PART 1 LAMINATED CORES

1 SCOPE

This standard (Part 1) specifies designation code for cores and assemblies for transformers and inductors made from laminations.

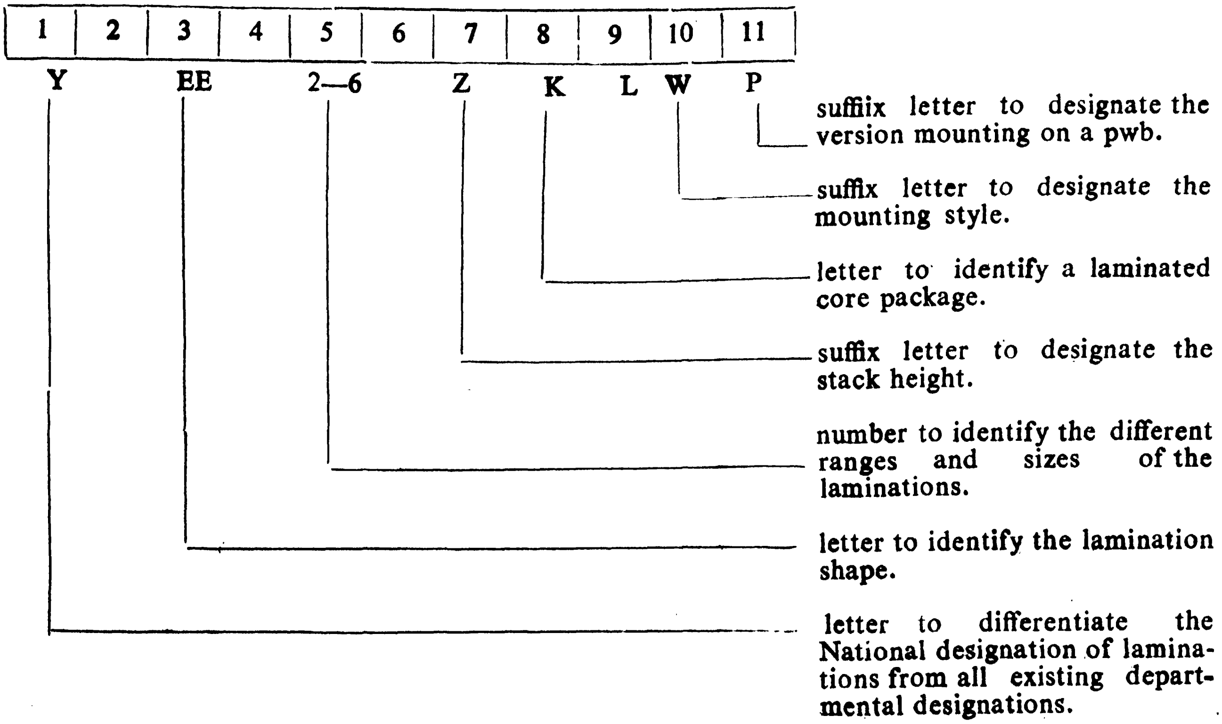
2 REFERENCES

2.1 The Indian Standards listed below are necessary adjuncts to this standard:

IS No.	*Title*
11794 (Part 1) : 1986	Laminations for transformers and inductors for use in telecommunication and electronic equipment: Part 1 General requirements and tests
11794 (Part 2/ Sec 1 to 7) : 1986	Laminations for transformers and inductors for use in telecommunication and electronic equipment: Part 2 Preferred ranges of laminations

3 GENERAL

The code is explained in respect of a transformer using YEE shaped laminations.


1
2
3
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6
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10
11
Y
EE
2—6
Z
K
L
W
P
suffiix letter to designate the version mounting on a pwb.
suffix letter to designate the mounting style.
letter to identify a laminated core package.
suffix letter to designate the stack height.
number to identify the different ranges and sizes of the laminations.
letter to identify the lamination shape.
letter to differentiate the National designation of laminations from all existing departmental designations.

Z, W and P are variables. The values they assume in particular cases shall be as given in 4 and 5. K and L are constants. Where they are inapplicable they shall be replaced by the symbol '*'.

NOTES

1 The sixth column may be occupied by a two digit number.

2 In a particular document covering components differing only in size, it may be convenient to leave out some of the last four letters.

3 When it is wished to test designations according to this code on a computer, this may be done as long as the separate elements of the code are separated by the appropriate delimiters.

4 CORE DESIGNATION

The first six columns define the lamination shape and size according to IS 11794 series.

In the seventh column letter Z designates the appropriate stack height.

Letter Z is used as a suffix to designate the appropriate stack size, as shown below:

Suffix Letter Z	*Multiple of Width of Centre* Leg of Lamination*
a	0·5
b	0·63
c	0·8
d	1·0 (that is square stack)
e	1·25
f	1·6
g	2·0

*Or outer leg, where no centre leg exists.

In the eighth column, letter K identifies a laminated core package.

In the ninth column, letter L identifies a core constructed by mating pairs of the larger part of a lamination.

4.1 Examples of a Core Designation

Y EE 2—6 d K L

Core, using YEE laminations, range 2 with width of central limb 6 mm, stack height d, lamination core package (K), with mating pairs of the larger parts of laminations (L).

5 ASSEMBLY DESIGNATION

In order to describe the assemblies for transformers and inductors, it is necessary to add to the core designation of column 4 two additional letters.

In the tenth column, letter W designates the mounting style.

Suffix Letter W	*Mounting Style*	*Corresponding Symbols for the Distance Between Mounting Hole Centres*
V	Vertical mounting	D1 and D3
H	Horizontal mounting	D2 and D3
Q	Level mounting	D1 and D2
C	U-clamp mounting	D4

The mounting styles designated by V, H and Q are defined by the drawing given in Annex A.

NOTE — In some cases, for example using YUI — 1 laminations, the mounting style may have alternative fixings, such as brackets or pillars, for which the values of D1 differ. In these cases W should be given the value QB—for bracket mounting, or QP—for pillar mounting.

In the eleventh column P is used as a suffix to designate the mounting in a printed wiring board, as indicated below:

Suffix Letter P	*Grid Plan Based on*
M	Metric system

5.1 Example of an Assembly Designation

Y EE 2—6 d k * Q M

Assembly using YEE lamination, range 2 with width of centre limb 6 mm, stack height d, lamination core package (K), mating larger and smaller parts of lamination (*), level mounting style (Q), mounting on a printed wiring board with grid plan based on metric system (M).

6 TYPICAL EXAMPLES

Two typical examples of designation for transformer are explained as below:

a) YEI 1—22 d * * H *

Transformer using YEI lamination, range 1 with centre limb width 22 mm, stack height d, built with unbonded (separable) laminations (*), standard shape (*), horizontal mounting (H), not intended for mounting on a pwb (*).

b) YUI 1 – 50 d * * V *

Transformers using YUI lamination, range 1 with limb width 50 mm, stack height d, built with unbonded (separable) laminations (*), standard shape (*), vertical mounting (V), not intended for mounting on a pwb (*).

ANNEX A

(*Clause* 5)

DEFINITIVE ILLUSTRATIONS OF VERTICAL, HORIZONTAL AND LEVEL MOUNTING STYLES

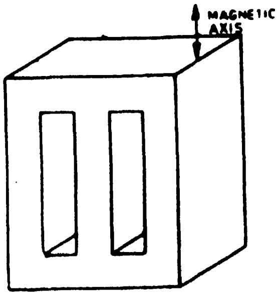

FIG. 1 VERTICAL MOUNTING STYLE (V)

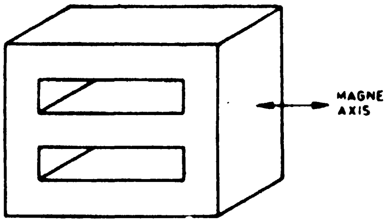

FIG. 2 HORIZONTAL MOUNTING STYLE (H)

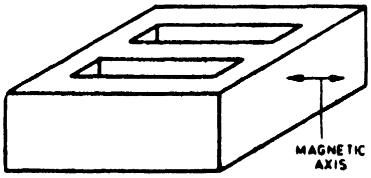

FIG. 3 LEVEL MOUNTING STYLE (Q)

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